HARNESS DICKEY

Harness Dickey & Pierce PLC
Attorneys and Counselors
5445 Corporate Drive, Suite 200
Troy, Michigan 48098-2683
Phone: 248-641-1600 Fax: 248-641-0270
Metropolitan: Detroit St. Louis Washington, DC

RECEIVED
CENTRAL FAX CENTER
SEP 23 2008

DATE: September 23, 2008 NO. OF PAGES (INCLUDING THIS PAGE): 3

FOR: Examiner A. Witknowski
COMPANY: United States Patent & Trademark Office
FAX NO.: 571-273-8300 PHONE:

ORIGINAL WILL FOLLOW BY:
- ☐ REGULAR MAIL
- ☐ OVERNIGHT MAIL
- ☐ COURIER
- ☒ WILL NOT FOLLOW

FROM: Timothy D. MacIntyre 248 641-1230

Please let us know by phone or fax if you do not receive any of these pages.

COMMENTS:

Application No.: 10/560,001
Filing Date: December 8, 2005
Applicant: Atsushi Tomozawa
Group Art Unit: 2853
Examiner: Alexander C. Witkowski
Title: Piezoelectric Element, Inkjet Head, Angular Velocity Sensor, Methods For Manufacturing Them And Inkjet Recording Device

Attorney Docket: 5077-000249/US/NP

RECEIVED
CENTRAL FAX CENTER
SEP 23 2008

Applicant Initiated Interview Request Form

Application No.: 10/560,001 First Named Applicant: A. Tomozawa
Examiner: A. Witkowski Art Unit: 2853

Status of the Application: pending non-final Office Action

Issues to be discussed:

Claims 1, 6, 8-11, 24, 29, 31, 32, and 34-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Murai (US 6,705,708) ("Murai '708") in view of Qui et al. (US 6,402,304) ("Qui"); Cheng et al.: Thin Solid Films, Vol. 385, Issues 1-2, April 2001, pp. 5-10, Thickness-dependent microstructures and electrical properties of PZT films derived from sol-gel process ("Cheng"); and Sumi et al.: Thin Solid Films, Vol. 315, Issues 1-2, March 1998, pp. 77-85: Effect of the annealing temperature on structural and piezoelectric properties of the sol-gel Pb(Zr 0.56Ti 0.44) 0.90 (Mg 1/3 Nb 2/3) 0.10 O3 films ("Sumi"). Applicant respectfully traverses this rejection.

The outstanding Office Action alleges at page 3, lines 5-8, that Murai '708 teaches "the columnar grains of the second thin piezoelectric film have a larger average cross-sectional diameter than the columnar grains of the first thin piezoelectric film (col. 8, lines 21-23)." However, as Applicant discussed in response to the previous rejections, Murai '708 merely describes in col. 8, lines 21-23, "the total thickness of the second piezoelectric layer (i.e., the piezoelectric film 43 formed on the part from which the bottom electrode 33a was removed) is greater than the thickness of the first piezoelectric layer (i.e., the piezoelectric film 43 formed on the other part)." Therefore, Murai '708 fails to teach or suggest

that "the columnar grains of the second thin piezoelectric film have a larger average cross-sectional diameter than the columnar grains of the first thin piezoelectric film" as recited in the pending claims. Moreover, the Examiner concedes this point in the Office Action at page 20, line 11, to page 21, line 4.

The Examiner relies upon Qui, Cheng and Sumi to teach the ratio of the thickness of piezoelectric film to the average cross-sectional diameter of the columnar grains of the second piezoelectric film. Without conceding this assertion or the merits of combining these references with Murai '708, applicant points out that neither of these references cure the deficient of Murai as noted above. In other words, neither Qui, Cheng or Sumi teach or suggest that ""the columnar grains of the second thin piezoelectric film have a larger average cross-sectional diameter than the columnar grains of the first thin piezoelectric film" as recited in the pending claims. Therefore, it is respectfully submitted that each of the independent claims, along with claims depending therefrom, defines patentable subject matter over this combination of references. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.